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*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: LABELING METHODOLOGY COMPRISING OLIGOPEPTIDES

(57) Abstract: A method for providing a labeled target protein or labeled target peptide in high purity, which method comprises the steps of a. contacting a chemical molecule, which chemical molecule comprises a target protein or a target peptide residue beside amino acid residues, spacer residues, and/or linker residues, an affinity tagging residue, and a labeling residue which labeling residue may be detected by physical means, with an affinity support, to obtain said chemical molecule bound to the affinity support via the affinity tag of the affinity tagging residue, b. removing impurities in the reaction mixture surrounding the affinity support to which the chemical molecule according to step a. is bound, and c. cleaving or eluting said chemical molecule from said affinity support; and compounds useful in such method. Such method is e.g. useful for (ultra) HTS-screening, especially spectroscopic HTS systems at single molecule resolution.

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IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV,
MA, MD, MK, MN, MX, NI, NO, NZ, OM, PG, PH, PL,
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BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(71) Applicant (*for AT only*): NOVARTIS PHARMA GMBH
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(72) Inventors; and

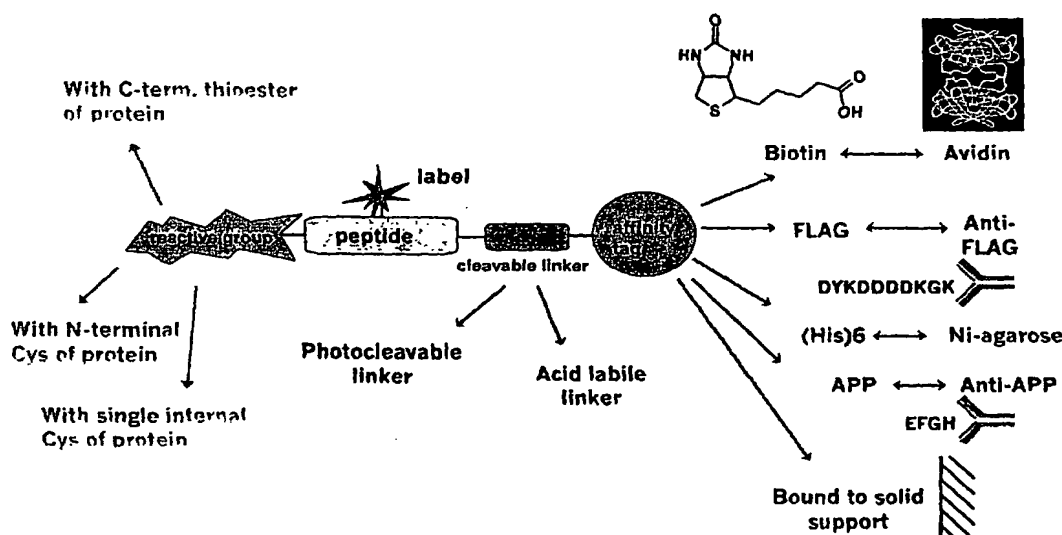
(75) Inventors/Applicants (*for US only*): AUER, Manfred
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(57) Abstract: A method for providing a labeled target protein or labeled target peptide in high purity, which method comprises the steps of a. contacting a chemical molecule, which chemical molecule comprises a target protein or a target peptide residue beside amino acid residues, spacer residues, and/or linker residues, an affinity tagging residue, and a labeling residue which labeling residue may be detected by physical means, with an affinity support, to obtain said chemical molecule bound to the affinity support via the affinity tag of the affinity tagging residue, b. removing impurities in the reaction mixture surrounding the affinity support to which the chemical molecule according to step a. is bound, and c. cleaving or eluting said chemical molecule from said affinity support; and compounds useful in such method. Such method is e.g. useful for (ultra) HTS-screening, especially spectroscopic HTS systems at single molecule resolution.

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International Application No
PCT/EP 03/13715

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N33/58 C07K1/13 C07K5/103 C07K7/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/052271 A (NOVARTIS ERFIND VERWALT GMBH ; NOVARTIS AG (CH); QUINN DOUGLAS FREDERI) 4 July 2002 (2002-07-04) page 12 - page 14	1,2
X	CONRADS TP ET AL.: "Quantitative Analysis of Bacterial and Mammalian Proteomes Using a Combination of Cysteine Affinity Tags and 15N-Metabolic Labeling" ANALYTICAL CHEMISTRY, vol. 73, no. 9, 1 May 2001 (2001-05-01), pages 2132-2139, XP002290302 the entire document, particularly pages 2133 and 2134, "Labeling and Affinity Isolation of Cys-polypeptides" ----- -/--	1,2

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

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Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/28890 A (SCRIPPS RESEARCH INST ; BARK STEVEN J (US); HAHN KLAUS M (US)) 11 April 2002 (2002-04-11) page 28 - page 29 -----	1,2
X	EP 1 182 458 A (RIKEN) 27 February 2002 (2002-02-27) page 3 - page 6 -----	1,2
A	GOSHE M B ET AL: "Phosphoprotein isotope-coded affinity tag approach for isolating and quantitating phosphopeptides in proteome-wide analyses" 1 June 2001 (2001-06-01), ANALYTICAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. COLUMBUS, US, PAGE(S) 2578-2586 , XP002216845 ISSN: 0003-2700 abstract -----	1,2
A	WO 02/073201 A (GENCOM CORP ; SASAKI TORU (JP); NEMOTO NAOTO (JP)) 19 September 2002 (2002-09-19) abstract -----	1,2
A	US 2002/165186 A1 (PRECHTEL ALEXANDER THORSTEN ET AL) 7 November 2002 (2002-11-07) example 1 -----	1,2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/13715

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1, 2

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,2

method for providing a labeled target protein or labeled target peptide

1.1. claims: 1,2 (both partially)

method for providing a labeled protein or a labeled peptide comprising a reversible affinity tag

1.2. claims: 1,2 (both partially)

method for providing a labeled protein or a labeled peptide comprising an irreversible affinity tag

2. claims: 3-16

labeled compounds and their use and methods

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/13715

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			WO 0249625 A2	27-06-2002
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